

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A shifter assembly for controlling the transmission of a motor vehicle, comprising:

a base configured to be mounted to a motor vehicle;

a shift member movably mounted to said base, said shift member movable to a plurality of discreet positions including at least a PARK position, a REVERSE position and a DRIVE position and providing an output for controlling a transmission according to the position of said shift member;

a shift gate fixed to a selected one of said base and said shift member and having at least PARK, REVERSE, and DRIVE gear positions;

a powered pawl mechanism fixed to the other of said base and said shift member, said pawl mechanism having a movable pawl including a first member and a pawl member resiliently connected to the first member, wherein the pawl member is shiftable between an engaged position wherein said pawl member engages a selected one of said gear positions of said shift gate and at least partially restrains movement of said shift member, and a disengaged position wherein said pawl member is disengaged from said shift gate.

Claim 2 (original): The shifter assembly of claim 1, wherein:

said pawl mechanism is fixed to said base.

Claim 3 (previously presented): The shifter assembly of claim 1, wherein:

said pawl member is rotatable relative to the first member.

Claim 4 (previously presented): The shifter assembly of claim 2, including:

manually movable input member mounted on said shift lever; and wherein:

said pawl mechanism includes a solenoid that shifts said pawl member into said disengaged position upon actuation of said ~~electrical-switch~~ manually movable input member.

Claim 5 (original): The shifter assembly of claim 4, wherein:

said shift gate includes notches forming said gear positions, each said notch including a bottom surface and a side surface that restrains movement of said shift lever in at least a first direction when said pawl member is in said engaged position.

Claim 6 (original): The shifter assembly of claim 5, wherein:

said solenoid is biased into said engaged position;
said shift lever is pivotably mounted to said base and pivots about a pivot axis;
said pawl member configured such that it does not contact a bottom surface of said at least one of said notches when in said engaged position to thereby avoid generating noise.

Claim 7 (original): The shifter assembly of claim 6, wherein:

said shift gate includes a notch forming a NEUTRAL position; and
said notch forming said REVERSE gear position is shaped to permit said pawl member to move into said NEUTRAL position by movement of said shift lever when said pawl member is in the engaged position, but prevents movement of said pawl member from said NEUTRAL position to said PARK position when said pawl member is in said engaged position.

Claim 8 (withdrawn): The shifter assembly of claim 1, wherein:

said PARK, REVERSE and DRIVE gear positions define a first shift lane, and wherein:

said shifter assembly includes a second shift lane having gear positions providing single gear upshifts and downshifts.

Claim 9 (withdrawn): The shifter assembly of claim 8, wherein:

said second shift lane is generally parallel to said first shift lane and includes a PLUS position at a first end for upshifting one gear, and a MINUS position at a second end for downshifting one gear.

Claim 10 (withdrawn): The shifter assembly of claim 8, wherein:

said shift lever disconnects from said shift gate when moved into said second shift lane; and

said pawl retains said shift gate in position when said shift lever is in said second shift lane.

Claim 11 (withdrawn): The shifter assembly of claim 10, including:

a cable connected to said shift gate for controlling a transmission based upon movement of said shift gate when said shift lever is in said first shift lane; and

at least one sensor adapted to generate a signal corresponding to a position of said shift lever in said second lane for controlling a transmission.

Claim 12 (original): The shifter assembly of claim 4, wherein:

said pawl member is biased into said engaged position; and

said shifter assembly includes a manual release member operably connected to said pawl member to permit manual movement of said pawl member out of said engaged position.

Claim 13 (withdrawn): The shifter assembly of claim 2, wherein:

said shift member and said shift gate comprise an integrally formed one-piece unit.

Claims 14 and 15 (cancelled)

Claim 16 (withdrawn; currently amended): The shifter assembly of claim [14] 13, wherein:

said shift member comprises a shift lever;

said shift gate includes PARK, REVERSE and DRIVE gear positions defining a first shift lane;

said shift lever movable to a second shift lane having single gear upshift and downshift positions.

Claim 17 (withdrawn): The shifter assembly of claim 16, wherein:

said shift lever disengages from said shift gate when in said second shift lane, and said pawl mechanism prevents movement of said shift gate when said shift lever is in said second lane.

Claim 18 (withdrawn): The shifter assembly of claim 17, including:

a cable connected to said shift gate for controlling a transmission based upon movement of said shift gate when said shift lever is in said first shift lane; and

at least one sensor adapted to generate a signal corresponding to a position of said shift lever in said second lane for controlling a transmission.

Claims 19-22 (cancelled)

Claim 23 (currently amended): A shifter for controlling the transmission of a motor vehicle, comprising:

a base;

a shift member movably mounted to the base;

a shift gate fixed to said shift member, said shift gate having a plurality of transmission control positions; and

said shift member movable to input positions corresponding to said transmission control positions; and:

a powered pawl fixed to the base for selectively engaging said transmission control positions of said shift gate to restrict movement of said shift member; and including:

a controller that actuates said powered pawl based at least in part on [[a]] at least one vehicle operating parameter other than in addition to an input from a vehicle ignition, a position of the shift member, and a position of a vehicle brake pedal.

Claim 24 (original): The shifter of claim 23, wherein:

said at least one vehicle operating parameter comprises engine r.p.m.

Claim 25 (original): The shifter of claim 23, wherein:

said at least one vehicle operating parameter comprises the vehicle speed.

Claim 26 (previously presented): The shifter of claim 23, including:

a controller operably coupled to said powered pawl;

a sensor generating a signal to said controller such that said controller can determine which input position said shift member is in; and wherein:

said controller controls said powered pawl based upon vehicle operating parameters and the position of said shift member.

Claim 27 (previously presented): The shifter of claim 26, wherein:

said sensor generates a signal proportional to the distance moved, and said controller controls said powered pawl based on said signal.

Claim 28 (previously presented): The shifter of claim 26, wherein:

said controller controls said powered pawl based on the number of times said input member is moved during a predetermined time interval.

Claim 29 (original): The shifter of claim 28, wherein:

said controller moves said pawl a first distance if said input member is moved once during said time interval, and moves said pawl a second distance that is different than said first distance if said input member is moved twice during said time interval.

Claim 30 (original): A shifter for controlling a transmission, comprising:

a base;

a shift member movably mounted to said base, said shift member movable to a plurality of gear positions;

a pawl mechanism configured to selectively restrict movement of said shift member relative to said base, said pawl mechanism including a solenoid having a movable member that shifts from a rest position to an actuated position upon actuation of said solenoid, said solenoid including a magnet biasing said movable member into said rest position.

Claim 31 (original): The shifter of claim 30, wherein:

said solenoid includes a spring biasing said movable member into said rest position.

Claim 32 (original): The shifter of claim 31, wherein:

said magnet defines an attraction region within which said magnet will cause said movable member to return to said rest position, said spring configured to bias said movable member into said attraction region.

Claim 33 (original): The shifter of claim 32, wherein:

said movable member is movable through a range of motion within said attraction region, and wherein said spring is configured such that it does not bias said movable member throughout at least a portion of said range of motion.

Claim 34 (withdrawn): The shifter of claim 30, wherein:
movable member shifts in a horizontal direction.

Claim 35 (original): The shifter of claim 30, wherein:
said pawl mechanism includes a pawl member elastically coupled to said movable member such that said pawl member is movable relative to said movable member.

Claim 36 (original): The shifter of claim 30, including:
a controller operably coupled to said solenoid and controlling actuation of said solenoid based at least in part on vehicle operating parameters.

Claim 37 (original): The shifter of claim 36, wherein:
said controller controls actuation of said solenoid based at least in part upon movement of said shift member.

Claim 38 (withdrawn): The shifter of claim 37, wherein:
said controller actuates said solenoid to prevent movement of said shift member based upon the direction of movement of said shift member and the vehicle's velocity.

Claim 39 (withdrawn): The shifter of claim 38, wherein:
the shift member is movable to a PARK position and a gear position;
said controller actuates said solenoid to prevent further movement of said shift member if said shift lever has started moving towards said PARK position and the vehicle is traveling at a velocity above a preselected magnitude.

Claims 40-50 (cancelled)

Claim 51 (currently amended): A shifter for motor vehicle transmissions, comprising:
a base;

a shift member movably associated with the base for movement to a plurality of gear positions;

a powered pawl mechanism configured to selectively restrict movement of the shift member; and

a controller configured to control the powered pawl mechanism based at least in part upon at least one vehicle operating parameter other than the position of a brake pedal, a position of the shift member, and a vehicle ignition.

Claim 52 (original): The shifter of claim 51, wherein:

the powered pawl mechanism includes a pawl member and a shift gate, and wherein the pawl member is selectively shifted into engagement with the shift gate.

Claim 53 (original): The shifter of claim 51, including:

an input device permitting an operator to provide the controller with a signal, the controller controlling the powered pawl based at least in part on the signal.

Claim 54 (original): The shifter of claim 53, wherein:

the shift member comprises a shift lever;

the input device comprises a movable member mounted on the shift lever.

Claim 55 (previously presented): The shifter of claim 54, wherein:

the movable member comprises a button that translates linearly between a rest position and an actuated position.

Claim 56 (original): The shifter of claim 54, wherein:

the controller controls the powered pawl based at least in part on a selected one of the position, velocity, and acceleration of the movable member.

Claim 57 (original): The shifter of claim 54, wherein:

the movable member shifts between first and second positions; the controller controlling the powered pawl based at least in part on the number of times the movable member is shifted between the first and second positions.

Claim 58 (previously presented): The shifter of claim 55, including:

a release mechanism permitting an operator to manually control the powered pawl mechanism when the button is in the rest position.

Claim 59 (original): The shifter of claim 51, including:

the controller determines at least a selected one of the position, velocity and acceleration of the shift member and controls the powered pawl mechanism based at least in part on the selected one of the position, velocity and acceleration.

Claim 60 (previously presented): A shifter for vehicles, comprising:

a base;

a shift member movably mounted to the base for movement to a plurality of gear positions;

a manually operable member on the shift member that is movable between a rest position and an actuating position;

a shift gate on one of the base and the shift member, the shift gate having a plurality of notches corresponding to the gear positions;

an electrically powered pawl on the other of the base and the shift member, wherein the electrically powered pawl is shiftable to an engaged position engaging the shift gate to at least partially restrict movement of the shift member relative to the base, wherein the pawl is movable to a disengaged position when the manually operable member is in the actuating position; and

a manually operable release mechanism adapted to shift the pawl out of the engaged position without a supply of electrical power to the electrically powered pawl when the manually operable member is in the actuating position.

Claim 61 (withdrawn): The shifter of claim 60, wherein:
the shift gate is part of the shift member; and
the electrically powered pawl is mounted to the base.

Claim 62 (original): The shifter of claim 60, wherein:
the powered pawl comprises a solenoid.

Claim 63 (original): The shifter of claim 60, wherein:
the shift member comprises a shift lever.

Claim 64 (original): The shifter of claim 60, including:
at least one device configured to generate a signal to a controller corresponding
to a selected one of the plurality of gear positions.

Claim 65 (original): The shifter of claim 60, wherein:
the manually operable release mechanism is operable to release the pawl in
each of the plurality of gear positions.

Claim 66 (original): The shifter of claim 65, wherein:
the plurality of gear positions comprises at least a PARK, REVERSE, NEUTRAL
and DRIVE gear positions.

Claim 67 (original): The shifter of claim 60, including:
a mechanical linkage coupled to the shift member for controlling a transmission.

Claim 68 (currently amended): The shifter of claim 61, wherein:
the base includes a stop surface; and
the powered pawl includes a linearly movable output member that shifts along an
axis and an engagement a pawl member resiliently coupled to the output member such
that the engagement member engages the shift gate and the stop surface upon

application of a force to the shift member when the pawl is in the engaged position to thereby transfer forces into the base.

Claim 69 (original): The shifter of claim 61, wherein:

the pawl is biased into the engaged position, and the release mechanism comprises a release member that is longitudinally shiftable between a rest position and a release position, the release member engaging the pawl and moving it from the engaged position upon movement of the release member, and wherein the release member is biased into the rest position.

Claim 70 (withdrawn): A shifter for vehicles, comprising:

a base including a shift gate having a plurality of gear positions;

a shift member rotatably mounted to the base for rotation about an axis, the shift member including a powered pawl that engages the gear positions to at least partially restrict movement of the shift member relative to the base; and wherein:

the plurality of gear positions generally form an arc about the axis.

Claim 71 (withdrawn): The shifter of claim 70, wherein:

the shift member comprises a shift lever and the axis is generally horizontal; and the pawl includes a horizontally shiftable member that engages the shift gate.

Claim 72 (withdrawn): The shifter of claim 71, wherein:

the powered pawl comprises a solenoid.

Claim 73 (withdrawn): The shifter of claim 72, including:

at least one device configured to generate a signal to a controller corresponding to a selected one of the plurality of gear positions.

Claim 74 (withdrawn): The shifter of claim 73, wherein:

the plurality of gear positions comprises at least a PARK, REVERSE, NEUTRAL and DRIVE gear positions.

Claims 75-79 (cancelled)

Claim 80 (currently amended): A shifter for vehicles, comprising:

a base;

a shift member movably mounted to the base for movement to a plurality of gear positions;

a shift gate on one of the base and the shift member, the shift gate having a plurality of notches corresponding to the gear positions;

a powered pawl on the other of the base and the shift member, wherein the powered pawl is shiftable to an engaged position engaging the shift gate to at least partially restrict movement of the shift member relative to the base;

the powered pawl including a solenoid having a housing and a rod movably mounted within the housing, the rod including a magnet, wherein the magnet is encapsulated by a resilient material fixed to the rod to form an integral damper to reduce noise.

Claim 81 (previously presented): The shifter of claim 80, wherein:

the magnet is ring shaped with generally parallel side faces.

Claim 82 (original): The shifter of claim 81, wherein:

the rod is made of a polymer material molded at least partly around the magnet.

Claim 83 (original): The shifter of claim 82, wherein:

the resilient material defines a melting temperature; and

the polymer material has a melting temperature that is greater than the melting temperature of the resilient material.

Claim 84 (original): The shifter of claim 83, wherein:

the polymer material extends along at least a portion of the side faces of the magnet to retain the magnet.

Claim 85 (original): A shifter for vehicles, comprising:

a base;

a shift member movably mounted to the base for movement to a plurality of gear positions;

a shift gate on one of the base and the shift member, the shift gate having a plurality of notches corresponding to the gear positions;

a powered pawl on the other of the base and the shift member, wherein the powered pawl is shiftable to an engaged position engaging the shift gate to at least partially restrict movement of the shift member relative to the base;

wherein the powered pawl includes a solenoid having an output member shiftable between a rest position and an actuated position, the solenoid including a magnet biasing the solenoid to the rest position.

Claim 86 (original): The shifter of claim 85, including:

a spring biasing the output member to the rest position.

Claim 87 (original): The shifter of claim 86, wherein:

the output member comprises a rod made of a polymer material.

Claim 88 (original): The shifter of claim 86, wherein:

the shift member comprises a shift lever rotatably mounted to the base.

Claim 89 (original): The shifter of claim 88, wherein:

the plurality of gear positions comprises at least a park, neutral and drive gear positions.

Claim 90 (currently amended): A shifter for vehicles, comprising:

a base;

a shift member movably mounted to the base for movement to a plurality of gear positions;

a shift gate on one of the base and the shift member, the shift gate having a plurality of notches corresponding to the gear positions;

a powered pawl on the other of the base and the shift member, wherein the powered pawl is shiftable to an engaged position engaging the shift gate to at least partially restrict movement of the shift member relative to the base; and wherein:

the base includes a stop surface; and

the powered pawl includes a linearly movable output member that shifts along an axis and an engagement a pawl member resiliently coupled to the output member such that the engagement member engages the shift gate and the stop surface upon application of a force to the shift member when the pawl is in the engaged position to thereby transfer forces into the base.

Claim 91 (original): The shifter of claim 90, wherein:

the shift gate is part of the shift member; and

the powered pawl is mounted to the base.

Claim 92 (original): The shifter of claim 91, wherein:

the powered pawl comprises a solenoid.

Claim 93 (currently amended): The shifter of claim 90, wherein:

the engagement ~~member~~ pawl is coupled to the output member by an elastomeric member.

Claim 94 (currently amended): The shifter of claim 93, wherein:

the elastomeric member is configured to permit movement of the ~~engagement~~
pawl member relative to the output member in a direction transverse to the direction of movement of the output member.

Claims 95 - 138 (cancelled)

Claim 139 (currently amended): A shifter for controlling a vehicle transmission, comprising:

a controller;

a base;

a shift member movably mounted to the base, the shift member being movable to a plurality of gear positions;

a powered pawl engagable with a selected one of the base and the shift member to restrict movement of the shift member relative to the base; the powered pawl including a movable pawl member that defines first, second, and third distinct positions, wherein:

the controller is configured to selectively control the position of the movable pawl member and selectively shift and retain the pawl member ~~[[to]]~~ in the first, second, and third positions.

Claim 140 (original): The shifter of claim 139, wherein:

the shift member includes an input device that can be manipulated by a user to generate a signal to the controller;

the controller shifts the movable pawl member based, at least in part, upon the signal from the input device.

Claim 141 (original): The shifter of claim 140, wherein:

the input device comprises a push button.

Claim 142 (original): The shifter of claim 141, wherein:

the controller controls the movable pawl member based upon a distance the push button is moved.

Claim 143 (previously presented): The shifter of claim 141, wherein:

the controller controls the movable pawl member based upon the number of times the push button is depressed within a selected time interval.

Claim 144 (previously presented): The shifter of claim 141, wherein:

the controller controls the movable pawl member based upon a speed at which the push button is depressed.

Claim 145 (original): The shifter of claim 139, including:

an input device providing the controller with a vehicle operating parameter; and
wherein:

the controller shifts the movable pawl member based, at least in part, upon the vehicle operating parameter.

Claim 146 (original): The shifter of claim 145, wherein:

the vehicle operating parameter comprises a vehicle velocity.

Claim 147 (original): The shifter of claim 146, wherein:

the first position comprises a retracted position;
the second position comprises an intermediate position; and
the third position comprises an extended position.

Claim 148 (original): The shifter of claim 139, including:

a sensor configured to provide the controller with at least one of a position and a velocity of the shift member; and

the controller controls the powered pawl based, at least in part, on the one of a position and a velocity of the shift member.

Claim 149 (original): The shifter of claim 139, including:

a shift gate engagable by the powered pawl to selectively restrict movement of the shift member relative to the base, wherein the shift gate includes a first gear position and a second gear position, and wherein the controller controls the pawl to prevent movement from the first gear position to the second gear position if the vehicle velocity is above a predetermined value.

Claims 150 - 170 (cancelled)